

**WHAT IS CLAIMED:**

1. A method for making boron nitride powder having a thermal diffusivity of from about  $0.14 \text{ cm}^2/\text{s}$  to about  $0.20 \text{ cm}^2/\text{s}$  comprising:
  - 5 pressing high purity, hexagonal boron nitride having an average platelet size of at least 2 microns into a compacted form;
  - sintering the compacted form of boron nitride to form a sintered body;
  - and
  - crushing the sintered body under conditions effective to produce boron
  - 10 nitride powder having a thermal diffusivity of from about  $0.14 \text{ cm}^2/\text{s}$  to about  $0.20 \text{ cm}^2/\text{s}$ .
2. The method according to claim 1, wherein the high purity, hexagonal boron nitride is boron nitride powder, boron nitride briquettes, crushed
- 15 boron nitride briquettes, granulated boron nitride, or spray dried boron nitride.
3. The method according to claim 1, wherein the pressing comprises uniaxial pressing or isopressing.
- 20 4. The method according to claim 3, wherein the pressing is carried out at a pressure of about 1 ksi to about 60 ksi.
5. The method according to claim 1, wherein the sintering is carried out at a temperature of at least about  $1400^\circ\text{C}$ .
- 25 6. The method according to claim 1, wherein the crushing is jaw crushing or roll crushing.
7. The method according to claim 1, wherein the boron nitride
- 30 powder comprises agglomerates of boron nitride particles having an average agglomerate size of from about 20 microns to about 500 microns.

8. The method according to claim 7, wherein the majority of boron nitride agglomerates have an average agglomerate size of from about 30 microns to about 105 microns.

5 9. The method according to claim 1, wherein the high purity, hexagonal boron nitride has an oxygen content of from about 0 wt.% to about 1.0 wt.%.

10 10. The method according to claim 1, wherein the boron nitride powder has a tap density of about 0.7 g/cc to about 0.9 g/cc.

11. The method according to claim 1 further comprising; classifying the boron nitride powder under conditions effective to obtain a desired agglomerate size distribution.

15 12. The method according to claim 11, wherein the classifying comprises screening, air classifying, or elutriation.

20 ~~13. A boron nitride powder having a thermal diffusivity of from about 0.14 cm<sup>2</sup>/s to about 0.20 cm<sup>2</sup>/s.~~

14. The boron nitride powder according to claim 13, wherein the boron nitride powder comprises agglomerates of boron nitride particles having an average agglomerate size of from about 20 microns to about 500 microns.

25 15. The boron nitride powder according to claim 14, wherein the majority of boron nitride agglomerates have an average agglomerate size of from about 30 microns to about 105 microns.

30 16. The boron nitride powder according to claim 13, wherein the boron nitride powder has a tap density of about 0.7 g/cc to about 0.9 g/cc.

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